



## THE EFFECT OF ATTITUDE AND SPIRITUAL INTELLIGENCE TOWARDS MATH ACHIEVEMENT OF CLASS XI MAN KOLAKA

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### Abstract

The purpose of this research was to determine the effect of the attitude and spiritual intelligence toward mathematics achievement of students of class XI MAN Kolaka. This research was conducted in MAN Kolaka starting from April 27 until May 27, 2015 the second semester of the academic year 2014/2015. Subjects in this study were all students of class XI MAN Kolaka in the academic year 2014/2015, amounting to 104 students consisting of four classes, namely class IPA1 totaling 23 people, IPA2 class numbering 24 people, IPS1 class numbering 26 people, and the class IPS2 totaling 31 people. The sample taken from the population was 30% or 32 students. This research included in the type of survey research, in which the researcher acted directly for the data retrieval by looking at student achievement and provide a questionnaire attitudes of students and students' spiritual intelligence. Data collection in this study using instrument namely questionnaire for attitude of students consisting of 20 items and spiritual intelligence consisted of 20 items. While the documentation was used to collect data concerned mathematics achievement of students of class XI MAN Kolaka. Data analyzed using descriptive statistics and inferential statistics. Based on the analysis, it was concluded that attitude and spiritual intelligence toward mathematics achievement of class XI MAN Kolaka had no significant positive effect on the mathematics achievement. Wherein the hypothesis testing results showed that the test of  $t_{hit} = 0.00005 > T_{table} = 3,31$  at the significant level.

**Key Words:** *survey, attitude, spiritual intelligence*

### A. Introduction

Education is not just a form of human skills to carry out a particular job, but also foster and develop human values. That is the man who fear Allah and faith in God Almighty, noble and virtuous, intelligent reasoning, able to communicate social and global, healthy and independent. For that education has the responsibility for the achievement of the learning environment and learning process that can develop any competence of learners, to be useful to himself, family, community, and nation. The subjects of mathematics are one of the subjects that are deemed less attractive to students. According to Sriyanto (2004: 12) that negative assumptions of most students about math as a difficult subject can not be separated from the growing perception in the community about mathematics as a difficult subject. Negative perception was shaped by the notion that mathematics is a science that is full of symbols and formulas that are difficult and confusing. This assumption appears on the experience less enjoyable when studying mathematics at school. Consequently, the math is not viewed objectively anymore. This has an impact to the low quality of mathematics learning due to lack of interest in studying the field of

the study. This fact needs attention given mathematics is one of the basic sciences that can train students to examine an issue that is logical, critical and systematic. Mathematics is also the foundation needed by students to support learning success in higher education, even necessary in solving the problem. In this context, the subject of mathematics plays an important role because in addition taught at all levels of education, mathematics can also be applied to various aspects of human life. According to Uzer (1993: 10) that a low student achievement, including mathematics achievement, can be caused by factors originating from within the students as well as factors outside the student.

The attitude of the students in the face of subjects including the one factor that comes from within the students that can influence learning achievement. Less appreciative attitude, negative and frustatif the subjects could lead to a lack of interest, motivation, targets in following these lessons and will have an impact on the achievements. Yet according to Hudoyo (1998) that the math associated with abstract concepts that pemahamanya require high reasoning power, persistence, perseverance, attention, and motivation. All that can only be achieved if the student has an appreciative and positive attitude towards the subjects. According to Zohar and Marshall (2001: 57) that spiritual intelligence is the intelligence necessary for the functioning of IQ and EQ effectively. Spiritual intelligence (SQ) is the highest human intelligence. If spiritual intelligence possessed by the students they will be better able to understand the various issues or problems that arise during the learning process takes place in the school. Not only that, with spiritual intelligence students will be able to motivate yourself to study harder or studying in order to discover the meaning of the lessons given by the teacher. Spiritual intelligence also encourages students to be more creative that have creativity (creation) is high so that the learning achievement in school increases. Based on the results of an initial interview with the teacher Math Class XI MAN Kolaka second semester of the school year 2014/2015 suggests that some students consider mathematics as subjects daunting, tedious, and difficult to understand. The attitude in mathematics is very important to have the students, especially the math because math students' attitudes toward mathematics influence learning outcomes. Past research has linked is Marliani (2009), which examines the relationship attitudes of students in mathematics with mathematics learning achievement of students in SMP Negeri 1 Latambaga, showed that there is a positive and significant correlation between students' attitudes toward mathematics courses with mathematics achievement students.

## B. Literature Review

Attitude is one of five (5) types of affective important characteristics, namely the attitudes, interests, self-concept, values, and morals (MONE, 2003: 4). Thurstone's definition (in Marliani, 2009: 13) can be formulated that attitude includes several aspects:

1. Accept or reject or oppose
2. Values
3. Like it or not
4. Positive or negative toward an object of psychology.

According to Slameto (2003: 189) attitudes are formed through a variety of ways, among others:

1. Through the experience of repeated or accompanied by a profound feeling (the traumatic experience).
2. Through imitation, that imitation can occur without intentional or accidental.
3. Through suggestion, here someone to form an attitude towards an object without a reason and clear thinking, but solely because of the influence that comes from someone or something that has authority in his view.
4. Through identification, here someone imitating another example of an organization or a particular entity based on an emotional attachment to nature; imitate in this respect more in the sense of trying to match.

Based on some previous definitions can disimpulkkkan that attitude in this study with regard to positive and negative reactions of students to math, whether it accepts or rejects, assess, and to like or dislike formed through experience, imitation, suggestion, and identification.

Spiritual intelligence is a boost circuit that drives a person to do the desires based on their goal of achieving good performance.

Spiritual understanding according to the experts:

1. According to Zohar and Marshall (2001: 57) spiritual intelligence is a necessary basis for the functioning of IQ and EQ effectively, even spiritual intelligence is our highest intelligence.
2. According to Agustian (2001: 57) spiritual intelligence is the ability to give meaning to any conduct worship and activities through the steps and thoughts that are whole human beings towards nature and patterns of thought and principled monotheism only because of God.

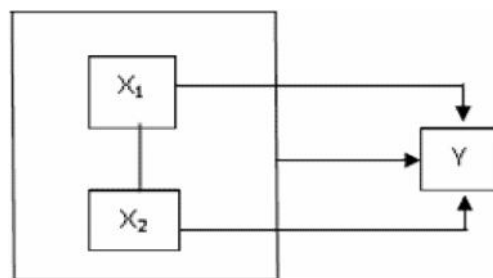
So spiritual intelligence or commonly called the SQ is the soul of wit that helps a person to develop his or her self through the creation of the possibility to implement positive values. According to Nasrun (in Marliani 2009: 6) that etymologically achievement interpreted as a result of the work that has been achieved with effort or obtained by working tenacity that can be measured by a test called. Furthermore Winkel (1984: 102), clarifies that learning achievement produced by students to bring changes in the ability of the aspects of knowledge, understanding, skills, and attitudes. The change was evident in academic achievement demonstrated by the student to questions and the assignment of teachers of subjects.

Based on the understanding that stated previously, the learning achievement is a measure of success, learning effort undertaken by students on a subject. This was determined after completing a test in relation to the subjects studied. In short, academic achievement can be regarded as final results have been achieved by someone after learning effort.

### C. Methodology

#### 1. Research Design

This research included in the type of survey research in which researchers acts directly in the data retrieval by looking at students' achievement and provides a questionnaire attitude for students and students' spiritual intelligence. The study design as shown in the following figure.



**Figure 1.** Design of influences attitudes (X1) and spiritual intelligence (X2) on the mathematics achievement of students (Y).

#### 2. Population and Sample

The population in this study was all students of class XI MAN 1 Kolaka in the academic year 2014/2015, amounting to 104 students consisting of four classes namely IPA1 class was 23 people, totaling 24 students class IPA2, class IPS1 IPS2 totaling 26 people and totaled 31 students. From the population, sample was taken of 30% or 32 students. It is based on the Arikunto's opinion (2002: 112) that when the subject of research of more than 100 samples, it can be 25% or more.

#### 3. Technique of Data Collection

- a) Data collection techniques used in this study are as follows:  
Data obtained student attitudes by providing a questionnaire attitudes. By way mengedar sheet of questions to students who have as respondents to get the data the students' attitude.
- b) Students' spiritual intelligence data obtained by way of spiritual intelligence questionnaire mathematics to students. By distributing sheets of questions to students who have as a respondent to obtain data spiritual intelligence.
- c) Data mathematics learning achievement gained by engineering documentation class XI student grades MAN Kolaka first semester of the school year 2014/2015.

#### 4. Instruments

The instrument used to support researcher to collect data from respondents in the questionnaire form, i.e. questionnaires for students' attitudes, and spiritual intelligence questionnaire. As for the students' attitudes questionnaire that attitudes towards the purpose and content of mathematics courses, attitudes towards studying the subjects of mathematics, attitudes towards teachers who teach the subjects of mathematics, attitudes

towards the efforts to deepen the subjects of mathematics. While the questionnaire used in spiritual intelligence that is, about developing talent knowledge, wanted to get attention, and wanted to get compliments. While the mathematics achievement of students obtained from class XI student grades MAN Kolaka odd semester.

#### 5. *Technique of Data Analysis*

Analysis of the data used in this research is analysis descriptive statistics and inferential statistical analysis. Both types of these techniques can be explained in the following points:

#### a) Analisis Statistik Deskriptif

Descriptive statistics were used to describe the state of the population in the form of the average, median, mode, minimum value, standard deviation, frequency distribution tables and percentages.

Determining the level of student attitudes used criteria proposed by Hadi (1997), namely:

**Tabel 3.3 The five scale conversion**

category	Interval Score
Very High	$X + 1.5SD \leq X$
High	$X + 0.5SD \leq X < X + 1.5SD$
Average	$X - 0.5SD \leq X - 0.5SD$
Low	$X - 1.5SD \leq X < X - 0.5$
Very Low	$X < X - 1.5SD$

Explanation:

$X$  = The scores obtained by students

$\bar{X}$  = The average of the total score

SD = The Standard of Deviation

As for determining the level of spiritual intelligence and mathematics achievement class XI MAN Kolaka use the guidelines in the form of large-scale conversion of five that was developed by Suherman (2001) as listed in the table below:

**Tabel 3.3. The five scale conversion**

Category	Interval score
Very High	$X + 1.5SD \leq X$
High	$X + 0.5SD \leq X < X + 1.5SD$
Average	$X - 0.5SD \leq X - 0.5SD$
Low	$X - 1.5SD \leq X < X - 0.5$
Very Low	$X < X - 1.5SD$

Explanation:

$X$  = Score from questionnaire

$\bar{X}$  = Mean

SD = Standard of Deviation

The minimum completeness criteria (KKM) subjects of math class XI MAN Kolaka is 70.

#### b) Analisis Statistik Inferensial

Inferential statistics used to test hypotheses of the study and inferential statistical regression analysis simple and multiple regression. It is intended to test the research hypothesis. General equation of simple linear regression as follows:

$$\hat{Y} = \alpha + bX$$

Where:

$\hat{Y}$  = the value of mathematics achievement

$\alpha$  = constant value

$b$  = coefficient

As for testing the significant use formula F Calculate using the formula:

$$F_{\text{count}} = \frac{R^2/K_{\text{Reg}}(b/a)}{R^2/K_{\text{Res}}} \quad (\text{Riduwan, 2004: 146})$$

with a significant test criteria, namely

If  $F_{\text{count}} \geq F_{\text{table}}$  means  $H_0$  is significant

If  $F_{\text{count}} \leq F_{\text{table}}$  means  $H_a$  is not significant

with significance level of F table is  $\alpha = 0.05$

$$F_{\text{table}} = F_{(1-\alpha) (\text{db reg (b/a)}, (\text{db res}))}$$

As for the multiple linear regression equation used is:

$$\hat{Y} = \alpha + b_1 X_1 + b_2 X_2$$

Where:

$\hat{Y}$  = the value of mathematics achievement

$\alpha$  = constant value

$X_1$  = students' attitude score

$X_2$  = spiritual intelligence score

$b_1$  = coefficients x1 as predictor 1

$b_2$  = coefficients x2 as predictor 2

testing the significance of multiple correlation coefficient with the following formula:

$$F_{\text{count}} = \frac{R^2 (n-m-1)}{m (1-R^2)} \quad (\text{Riduwan, 2004: 154})$$

Where:

$n$  = number of respondent

$m$  = number of independent variable

With multiple correlation significant test criteria:

If  $F_{\text{count}} \geq F_{\text{table}}$  then  $H_0$  is rejected means significant.

If  $F_{\text{count}} \leq F_{\text{table}}$  then  $H_a$  received means insignificant.

Additionally, it will be calculated using SPSS.

## D. Finding and Discussion

### 1. Findings

#### a) Result of Descriptive Analysis

Based on research data obtained through questionnaires class XI student attitudes MAN Kolaka, obtained the lowest score of 50 and the highest was 70. The average value was 71.90, standard deviation was 7.68, median was 72.63, and mode amounting to 72.96. If the data is variable attitudes of students put in a category attitude, the obtained frequency distribution and percentage values as stated in the following table:

**Table 1. Category of the Students' attitude of class XI MAN Kolaka**

Category	Interval score	Frequency	Percentage (%)
Very High	$69,55 \leq X_1$	2	6,25%
High	$63,50 \leq X_1 < 69,55$	7	21,88%
Average	$57,495 \leq X_1 < 63,505$	9	28,125%
Low	$51,485 \leq X_1 < 57,495$	11	34,375%
Very Low	$X_1 < 5,485$	3	9,375%
		32	100

According to the table 1 above, the attitude of the students are classified as very high category as much as 2 people or 6.25%, higher category as many as 7 people or 21.88%, moderate category as many as 9 people or 28.125%, the low category as many as 11 people or 34.375% , very low as many as 3 people or 9.375%.

Based on research data obtained through a questionnaire spiritual intelligence class XI MAN Kolaka, obtained the lowest score of 45 and the highest was 65. The average value was 69.5, standard deviation was 9.24, median was 77.5, and mode was 77.27. If the students' spiritual intelligence variable data entered into the category of spiritual intelligence, the obtained frequency distribution and percentage values as stated in the following table:

**Tabel 2. Category of the Students' spiritual Intelligence of class XI MAN Kolaka**

Category	Interval score	Frequency	Percentage (%)
Very High	$65,65 \leq X_2$	0	-
High	$60,46 \leq X_2 < 65,65$	12	37,5%
Average	$55,27 \leq X_2 < 60,46$	11	34,37%
Low	$50,08 \leq X_2 < 55,27$	6	18,75%
Very Low	$X_2 < 50,08$	3	9,37%
		32	100

Based on Table 2 above, spiritual intelligence of students who belong to the category of very high there, high category as many as 12 people or 37.5%, moderate category as many as 11 people or 34.37%, lower category as many as 6 people or 18.75% and very low category as many as four people or 9.37%.

The data showed that the lowest value of 70 and a high of 95. The average value of mathematics achievement class XI MAN Kolaka is 80.25, 79.5 Median, mode of 80.83 and a standard deviation 5.87. Award categories based benchmark mathematics achievement can be seen in the following table:

**Tabel 3. Category of the Students' Achievement of class XI MAN Kolaka**

Category	Interval score	Frequency	Percentage (%)
Very High	$89,05 \leq X_2$	3	9,375%
High	$83,18 \leq X_2 < 89,05$	7	21,875%
Average	$77,31 \leq X_2 < 83,18$	10	31,25%
Low	$71,44 \leq X_2 < 77,31$	10	31,25%
Very Low	$X_2 < 71,44$	2	6,25%
		32	100

Based on Table 3 above, it appears that the number of students whose academic achievement is classified as very high category amounted to 3 students, or 9.375%, higher category amounted to 7 students or 21.875%, the moderate category amounted to 10 students or 31.25% and low category 10 or 31, 25% and a very low 2 or 6.25%.

## b) Result of Inferential Analysis

Inferential analysis in this study is intended to test research hypotheses have been proposed. In order to test the hypothesis used simple regression analysis and multiple regression. Before the technique simple regression and multiple regression is used, prior testing requirements analysis, the normality test.

Before regression analysis, prior testing data normality which aims to see whether the variables in this case the variable  $X_1$  (students' attitudes toward math class XI MAN Kolaka State),  $X_2$  (spiritual intelligence class XI MAN Kolaka) and  $Y$  (mathematics achievement class XI MAN Kolaka) derived from populations with normal distribution or not. Testing normality data were analyzed using Chi-square statistics. From the test results of the normality of the variables  $X_1$  obtained by  $t_{count}^2 = 3,0057$  whilst  $t_{table}^2 = t_{(0,95;3)}^2 = 11,07$ . Thus  $t_{count}^2 < t_{table}^2$ , variabel  $X_2$  obtained  $t_{count}^2 = 2,9402$  whilst value of  $t_{table}^2 = t_{(0,95;3)}^2 = 11,07$  Thus  $t_{count}^2 < t_{table}^2$  and variabel  $Y$  obtained  $t_{count}^2 = -95,6571$  whilst the value of  $t_{table}^2 = t_{(0,95;3)}^2 = 11,07$ . Thus  $t_{count}^2 < t_{table}^2$ , it can be concluded that the data of spiritual intelligence and mathematics achievement of students come from normal distributed data.

Based on the analysis that has been done shows that the value of  $F_{count} (0.00005) > F_{table} (3.31)$ . This means that, statistically not significant, which in other words  $H_0$ . So we can conclude that the attitude and spiritual intelligence together no effect on mathematics achievement class XI MAN Kolaka, with multiple regression equation is:

$$\hat{Y} = 3,023 + 0,515X_1 + 0,329 X_2$$

## 2. Discussion

Descriptive analysis showed that the average score of class XI student attitudes toward math Kolaka MAN is 60.5, the lowest score of 50, the highest score of 70, the standard deviation is 6.01, median of 58.5, and the mode of 56.5. Based on the criteria used in Table 1, it was concluded that students' attitudes toward math is average. As for the results of the descriptive analysis of class XI student of spiritual intelligence MAN Kolaka shows that the average score of 57.87, the lowest score of 45, the highest score of 65, the standard deviation of 5.19, median of 65.3 and mode of 61.3, Based on the criteria used in Table 2, spiritual intelligence class XI student of MAN Kolaka being categorized. The results of the descriptive analysis of student achievement class XI MAN Kolaka shows that the averages value of 80.25 the lowest score of 70 and a high of 95, a median of 79.5 for 80.3 modes, and standard deviation of 5.87. Based on the criteria used in Table 3, it can be concluded that the mathematics achievement of students of class XI MAN Kolaka amounted to 9.375% categorized as high.

The results of inferential analysis for predictors of students' attitudes shows that the value of  $F (20.62) > F_{table} (4.17)$ , this means that  $H_0$  is rejected or students' attitudes toward math class XI MAN Kolaka can be said to be positive and significant impact on learning achievement math students. In addition to predictors of spiritual intelligence indicates that the value of  $F (10.923) > F_{table} (4.17)$ . This means that  $H_0$  is rejected or spiritual intelligence math class XI MAN Kolaka can be said to be a significant positive effect on students' mathematics achievement. Furthermore, for the predictors of students' attitudes and spiritual intelligence collectively indicate that the value of  $F_{count} (0.00005) < F_{table} (3.31)$ . This means that, statistically significant influence but not at all other words  $H_0$ . So we can conclude that the attitude and spiritual intelligence together influential but not significant to the mathematics achievement of students of class XI MAN Kolaka.

## E. Conclusion

The results of inferential analysis for predictors of attitudes and spiritual intelligence class XI MAN Kolaka can be concluded influential but not significant to mathematics achievement at the  $F_{hit}$  value = 0.00005 and  $F_{tab} = 3.31$  with significance level  $\alpha = 0.05$ .

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